

12, 22, 32, 42 DRIVING CIRCUIT  
 52 CENTRAL PROCESSING UNIT  
 13 MAIN SHAFT ROTATION CONTROL CIRCUIT  
 15 SPEED SIGNAL GENERATION CIRCUIT  
 23 ROUGHING TOOL FEED CONTROL CIRCUIT  
 33 FINISHING TOOL FEED CONTROL CIRCUIT  
 43 WORKING PIECE FEED CONTROL CIRCUIT  
 53 COUNT SECTION  
 56 ROM  
 57, 57a POSITION DATA TABLE MEMORY  
 61 PROCESSING DATA INPUT SECTION

FIG. 2A

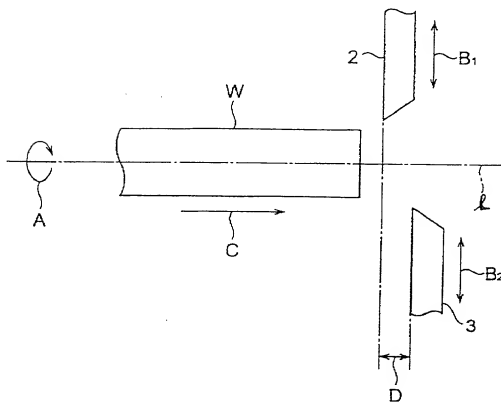


FIG. 2B

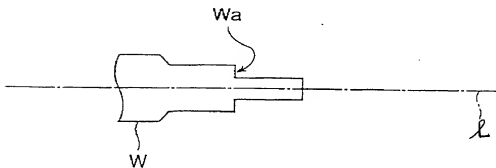
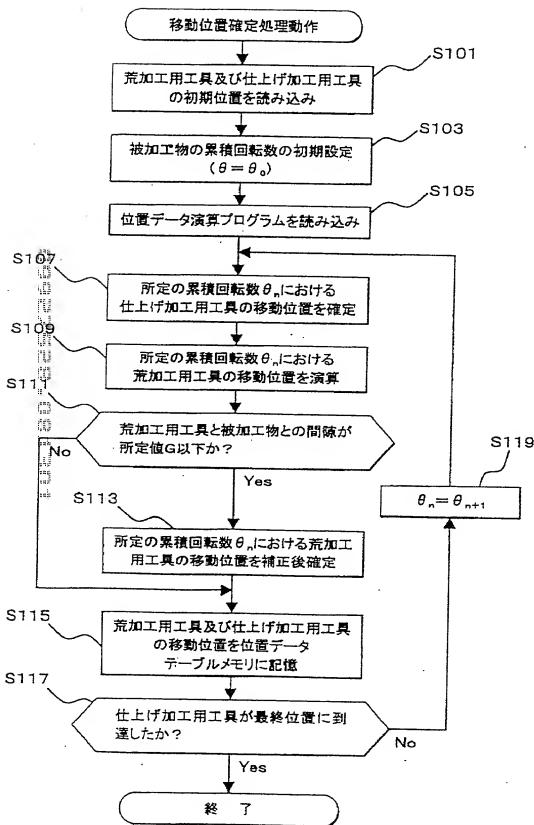
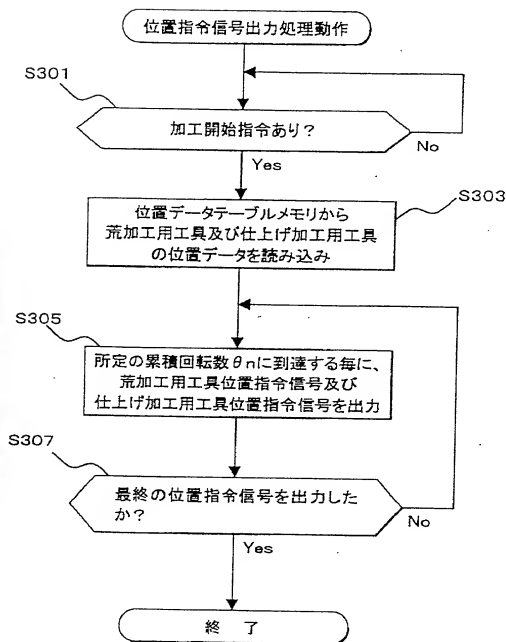


FIG. 3



S101: READ IN INITIAL POSITIONS OF ROUGHING TOOL AND FINISHING TOOL  
 S103: INITIALIZE: SETTING OF ACCUMULATION NUMBER OF ROTATION OF WORK PIECE ( $\theta = \theta_0$ )  
 S105: READ IN POSITION DATA CALCULATION PROGRAM  
 S107: SETTLE MOVEMENT POSITION OF FINISHING TOOL IN A PREDETERMINED ACCUMULATION NUMBER OF ROTATION  $\theta_n$   
 S109: CALCULATE MOVEMENT POSITION OF ROUGHING TOOL IN A PREDETERMINED ACCUMULATION NUMBER OF ROTATION  $\theta_n$   
 S111: IS GAP BETWEEN ROUGHING TOOL AND WORK PIECE NOT LARGER THAN A PREDETERMINED VALUE G?  
 S113: CORRECT AND SETTLE MOVEMENT POSITION OF ROUGHING TOOL IN A PREDETERMINED ACCUMULATION NUMBER OF ROTATION  $\theta_n$   
 S115: STORE MOVEMENT POSITION OF ROUGHING TOOL AND FINISHING TOOL IN POSITION DATA TABLE MEMORY  
 S117: FINISHING TOOL REACHES FINAL POSITION?  
 S119:  $\theta_n = \theta_{n+1}$

FIG. 4

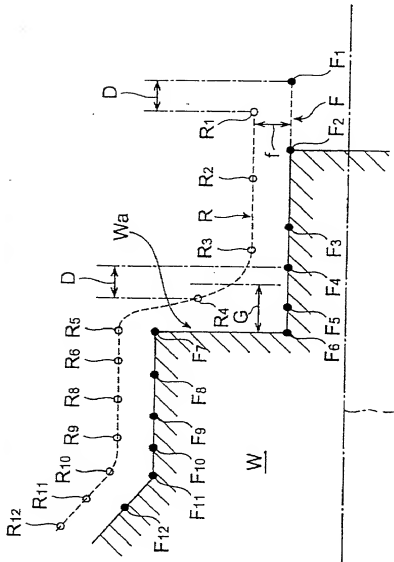


S301: IS THERE PROCESSING START COMMAND ?

S303: READ IN POSITION DATA OF ROUGHING TOOL AND FINISHING TOOL FROM POSITION DATA TABLE MEMORY

S305: OUTPUT ROUGHING TOOL POSITION COMMAND SIGNAL AND FINISHING TOOL POSITION COMMAND SIGNAL EVERY TIME WHEN THE NUMBER OF ROTATION REACHES A PREDETERMINED ACCUMULATION NUMBER OF ROTATION  $\theta_n$ .

S307: IS FINAL POSITION COMMAND SIGNAL OUTPUTTED ?



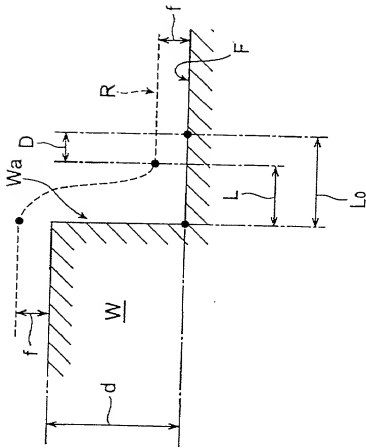


FIG. 6

FIG. 7A

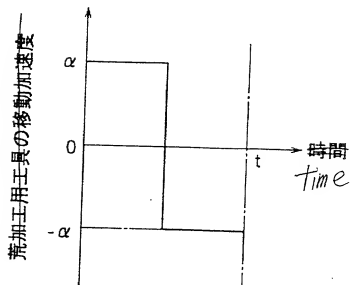
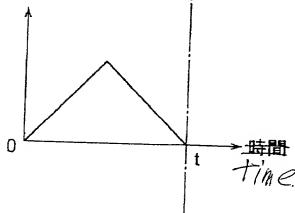


FIG. 7B

荒加工用工具の  
移動速度



movement speed of  
roughing tool  
movement ac